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ABSTRACT

This paper examines what rhetoric used in communicating with general audiences is appropriate to educational research as a form of knowing. Answers to this question depend not only on characteristics of knowledge, but also on what one considers a defensible goal in research reporting. Assuming that this goal is communicating authorized convictions rather than mere opinions or persuasive bias, the paper discusses standard difficulties of explaining research claims in written reports. The rhetoric of explanation is compatible with making the most of research knowledge, in a defensible way, and with bringing educational research and practice together for good purpose, namely, to educate. However, explaining research values and interests involves much more than disclosure, explanatory writing can become too discursive, and persuasion is sometimes unavoidable as a means for helping others acquire authorized convictions. The problem is how to walk the thin line between convincing explanation and mere persuasion. (Author/JAZ)

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Abstract

This philosophical paper examines what rhetoric used in communicating with general audiences is appropriate to educational research as a form of knowing. Answers to this question depend not only on characteristics of knowledge, but also on what one considers a defensible goal in research reporting. Assuming that this goal is communicating authorized convictions rather than mere opinions or persuasive bias, the paper discusses standard difficulties of explaining research claims in written reports. The rhetoric of explanation is compatible with making the most of research knowledge, in a defensible way, and with bringing educational research and practice together for good purpose, namely, to educate. However, explaining research values and interests involves much more than disclosure, explanatory writing can become too discursive, and persuasion is sometimes unavoidable as a means for helping others acquire authorized convictions. The problem is how to walk the thin line between convincing explanation and mere persuasion.

REPORTING AND USING EDUCATIONAL RESEARCH: CONVICTION OR PERSUASION?[1]

Margret Buchmann[2]

When secular criticism was applied to religion, the foundations of faith were called into question. Instead of revealed truth, scholars found the scriptures to be human testimony, fallible and conflicting. Not knowing what to believe, many people were troubled. Some wondered what to say to people they wanted to convert. And Bible criticism opened the way to social science.[3] Now that scientific criticism is applied to science, similar problems arise. What is one to believe, as certainty seems wanting? What justification do researchers have for changing other people's minds?

If we want a better understanding and utilization of educational research in policy and practice, we must face these questions. Clearly, the question of what is knowable must precede the question of what is communicable or usable knowledge. In earlier Yearbook chapters, philosophers of education have considered how the critique of science affects the role of educators and the rationality of educational research.[4] The present chapter considers the import of this critique for research communication. What can educational researchers say to practitioners, and what, as Dewey put it, are "the traits that mark off opinion and assent from authorized convictions?"[5] What rhetoric used in communication is appropriate to (educational) research as a form of knowing?[6]

Answers to these questions depend not only on characteristics of knowledge, but also on what one considers a defensible goal in research reporting. I shall argue that this goal is communicating authorized

convictions, not misconceptions or persuasive bias. This educative goal fits with the aims of science and also with the aims of action--to the extent that acting presupposes knowing.

If the communication of authorized convictions is to be successful, the audience must come to know researcher claims as warranted. To communicate their authorized convictions, researchers must pay attention to the conditions under which people get a hearing and succeed at changing other people's minds. Yet little attention has been given to questions of what this goal may imply for rhetorical devices researchers may employ, or what constraints on the manner of writing--for instance, recognizing the rationality of the audience--apply to research reporting. These questions are analogous to questions philosophers ask in the context of teaching.[7]

If researcher claims are reasoned judgments, the reasons have to be transmitted along with the judgments. A no-frills transit system of conclusions or injunctions may be rapid, but it fails as communication of research. From this point of view, research writing is a problem of principle and practice and a specific variant of the traditional theory-practice problem in education. The written research report is an important but neglected place for considering it. Clearly, teaching a general audience is not the only goal of research writing, nor the most important one. If inquiry is to prosper, the primary allegiance of researchers must be to their intellectual communities. The success of social science however depends on achieving some public understanding.

In religion, there were three responses to the erosion of certainty. Confronted with secular criticism, some nineteenth century clergymen turned away in silence. The foundations of faith being subject to doubt, they felt

they had lost their authority. While the policy of silence equates failing to be absolutely certain with lacking all reasons for conviction, it also encourages the notion that all beliefs are of equal merit. In quelling or hiding their doubts and bringing others to accept received dogma, some members of the clergy endorsed a policy of assertion and persuasion. Respecting the evidence and the rationality of other people, still others revised and explained their beliefs, aiming to communicate their authorized convictions.

Analyzing these prototypical responses to the difficulties of knowing and believing in the context of research writing, I shall examine why the policy of silence is unwarranted, why the policy of assertion and persuasion is wrong, and why acting on the policy of explanation and conviction is not straightforward. In reporting educational research to general audiences, the question is how to walk the fine line between convincing explanation and mere persuasion.

On the Right to Be Sure and the Need to Trust

Research findings can best be interpreted by someone who sufficiently masters a body of work to be a good judge of what can fairly be made of it, or of how findings from different lines of inquiry may or may not be consistent; denying the value of researchers' ability to think over and communicate the meaning of their findings therefore makes no sense.[8] These considerations throw doubt on the notion of some scholars that practitioners should draw "their own" conclusions from research.[9]

The fact that most researchers have little practical expertise underscores the importance of conversations among researchers and practitioners. But such opportunities for interactive knowledge use will not be broadly available; hence we need to rely on the written report for

communicating research. Still, research reports can be looked at as contributions to a historical conversation about education.

Philosophers and social scientists draw attention to conversation as an intellectual and ethical ideal for several reasons.[10] Generally inconclusive, conversations are not driven by the goal of winning but by the goal of understanding. They can clarify issues and differences. In form and content, conversations are less restrictive than arguments and more egalitarian. Their freedom and fairness can help people see things in a new light. In the social conversation about education, practice can have its own voice, which need not be assimilated to the voice of science nor requested to seek its guidance.

If we think of knowledge use in these terms, avoiding breakdowns in communication while ensuring the distinctive qualities of entries become crucial concerns. This implies that we need standards of intrinsic quality and appropriate communication in reporting educational research. These requirements relate to obligations attached to the researcher's role as scientist, and to the researcher's social role.

In research communication, moral and epistemological issues are intertwined and create special bonds among people.[11] The language of knowing is, in part, a language of authority, rights, and obligations. When one has a right to be sure, one is entitled to make assertions that others have a right to trust. Yet when they have no right to be sure, researchers making confident assertions are subject to blame. The question is, when are their convictions authorized?

The Nature of Authorized Convictions

Authority need not be absolute; the concept of authority is consistent with gradations and qualifications. In convictions, the measure of authority

is reasonableness. Reasonableness involves more than marshalling the facts. Where they are relevant and available, data constitute part of an array of good reasons, while concepts, norms and the other (substantive and formal) characteristics of what people consider a good case account for the rest.

Indeterminacy affects authorized convictions in two ways. First, though they may seem legitimate at the time, convictions can turn out to be wrong; thus, they admit of doubt. Second, inferences depend on concepts and modes of reasoning people bring to a situation; they cannot simply be "read out" from the data. Usually, the evidence allows for more than one reasonable interpretation; thus, any given interpretation lacks definitiveness. Neither form of uncertainty necessitates relativism or obsessive hedging.

Although in "its honorable sense, knowledge is distinguished from opinion, guesswork, speculation and mere tradition,"[12] scientific reasoning does <u>not</u> move by unfailing processes of inference from unassailable premises to conclusions that are proof against error. But researchers are able to determine things worth believing and doing by moving from adequately secure premises, with not so necessarily unfailing processes of reasoning, to warranted theoretical and practical conclusions. Put simply, we tend to make much of the evidence we have, and this is defensible as long as it is reasonable. Some educational researchers hold similar views; thus Fisher and his colleagues argue in their final report on the Beginning Teacher Evaluation Study (BTES) that

> one may reasonably base a belief on inconclusive evidence. No knowledge is ever absolute. Even experimental analyses are generally open to more than one reasonable interpretation, particularly when one wishes to generalize to natural situations and events. Correlative data combined with experiential knowledge and logical reasoning often provide considerable evidence for causal relationships. One should recognize the limitations of such evidence, but not disregard it.[13]

Nor does the possibility of error invalidate the idea of truth. For, "It is altogether wrong to equate a tentative claim to truth with a claim to tentative truth. They are every bit as different as a hesitant confession of wrongdoing differs from a confession of hesitant wrongdoing."[14]

Experience is ambiguous. In the arts and sciences, this fact translates into competing perspectives. Some critics interpret poems in relation to the artist's personal biography, others approach them as expressions of the universal voice of poetry. And biologists think very differently about what an organism is: Some look at it as many pairs of fixed and determinate cause-effect connections; others stress its unity, looking at the organism as a vastly complicated "feedback" mechanism. This variety is not a matter of personal taste and preference; "it reminds us only that different occasions or topics, subjects and contexts, may give us good reasons for adopting one standpoint rather than another."[15] Nor does being committed to a particular point of view exclude commitment to second-order standards of critical and reflective discussion; hence competing perspectives do not imply breakdowns in communication.[16]

The coexistence of defensible perspectives on a subject, which differ from one another on the related dimensions of substance (ways of conceiving subject matter) and form (ways of justifying conclusions), makes a profound difference for thought and action. It provides both grounds and substance for open-mindedness, as a mental and moral disposition.[17]

Open-mindedness and Confidence

Open-mindedness is a moral disposition in that it is often easier to live and think by the beliefs that are close to oneself: in one's family, profession, or research community. Given different valid perspectives on a

subject, one has reasons for occasionally suspending beliefs and subjecting them to further analysis. The systematic elaboration of perspectives gives people the wherewithal for a radical evaluation that allows seeing things with new clarity and freshness.

However, while researchers may feel cozy in the mode of eternal doubt or the divided mind, action cannot remain in these modes. One cannot, for instance, partly reject, partly accept another person's offer to buy one's car or forever--probably--accept the offer. People ask themselves, "What shall I do?" in response to some concrete, particular situation that will make circumstantial and pressing demands on their good sense and competence. All pertinent concerns will not be readily apparent, nor need their order be hierarchical or simple and fixed. And what is done is done; only the thought of it can be changed.

Hence, what matters is what the act is--what it is like, what it is for, what it changes or leaves as it is, and what comes of it for teachers and students. The acting person has to consider, furthermore, that the consequences of a given decision extend beyond its specific outcomes, "generalizing," as Scheffler put it, "into norm and precedent":

> For every decision inevitably reverberates outward, spills beyond the bounds of the problem, no matter how initially conceived. It creates precedents, activates analogies with the past, helps to form, strengthen or modify a general style, a set of norms that newly influence criteria of consistency in action.[18]

This leaves us in a difficult spot. While in the movement "outward," from thought to action, determinacy increases (directly and indirectly), the indeterminacy of reasoned judgment increases as well, and gets more complicated in the process.

A way out of this quandary is to follow the maxim, "Resolve it first, and wonder about it afterwards." This serial approach allows, in its two parts, for the confidence necessary to act while honoring the requirement for second thoughts--which is essential because of the indeterminacy of practical judgment and the normative force of action and decision. The confidence that fits with both parts of the maxim is a mental attitude of trust, arising from reliance on oneself (including what one knows and wants), circumstance, and other people. As an expectation so assured, it is not unjustified. Neither is it overboldness or presumption based on insufficient or improper grounds, marked by that excess of assurance which precludes reflection.

"Wondering about things afterwards" can be informed by concerns for truth and rightness, a willingness to test and reconsider, to listen to others and to change one's mind. Thus the charge to entertain "second thoughts"[19] carried by the second part of the maxim reintroduces the very open-mindedness that its first part must suspend in the act of choice, which (temporarily) ignores the possibility of errors and alternatives. Open-mindedness justifies confidence.

Confidence Under Complex Conditions

Considering the issue of confidence in the context of interactions between researchers and practitioners adds another layer of complexity. For, the smaller the measure of knowledge on the part of an audience, the greater its need to trust, though confidence is no more justified by this need. At the very least, one needs to believe that the researcher is honestly and adequately talking about what she knows. And the smaller the measure of knowledge available to the audience or speaker, the more likely it is that confidence born of interaction will be based on improper grounds--having an

engaging personality or looking distinguished, while to the eyes of colleagues a researcher may be less than competent. Nevertheless, what is logically unsound may interactionally be necessary, for "the efficacy of spoken communication rests in the end upon the transmission of nonverbal signs of credibility."[20]

This does not entail being suspicious. For, confidence being only in part grounded objectively does not require withholding it, or always questioning the validity of claims. There has to be some mutual reliance when people who differ by knowledge, concerns, and interests come together--in actuality or in postulating an audience in research writing. Indeed, the need to trust characterizes not only relations among researchers and practitioners, but applies quite broadly. While "in an ideal free society each person would have perfect access to the truth . . . in science, in art, religion and justice . . . this is not practicable; each person can know directly very little of the truth and must trust others for the rest."[21] Once there is distrust, differences among people shade into suspicion and disregard, eroding the basis for communication.

The standard way of thinking about rational action is to consider possibilities and then to choose the one that seems best, acknowledging that the choice is made on imperfect information. If theoretical knowledge is indeterminate and action determinate, the resolution of this tension may be a partial reversal of this order, that is, confident action with the habit of going back to examine the adequacy of grounds for actions taken and of the normative space that they help us form. What this suggests for researchers is making confident recommendations, with the habit of going back to reflect on their reasonableness and the ways in which acting on them may ramify into

norms and precedents. Typical reporting formats do not accomplish these things. Instead, they tend to foster the misconception that the adequacy of conclusions and recommendations is beyond question.

Research Reporting as Principled Practice

Any principled practice depends on a normative attitude. Respecting the uncertainty of knowledge and the rationality of other people in research writing presupposes a commitment to the development of reason, which many Anglo-American philosophers regard as the distinctive purpose of education. My case differs from arguments in that mainstream because I consider what is entailed in teaching an adult audience--in many ways already expert in education as their field--through research writing. This audience needs to know more about standards for judging the reasonableness of researcher claims. These writers need to examine which rhetoric fits with (educational) research as a form of knowing.

Looking at educational researchers as teacher-scholars aiming to communicate their authorized convictions is quite different from seeing them as the occasional authors of "capsule summaries" for practitioners or as writers of the standard "implications" sections. Writing in these modes, researchers often rely on their presumed authority to support their claims. But teaching requires that the audience come to believe things for good reasons.

This requirement has intellectual and moral bases. First, the difference between "truly believing" and "knowing" something is based on understanding the backing of claims in an intellectual community; second, in giving reasons, people acknowledge each other as responsible moral agents.[22] Here we could rest the defense on Kantian grounds: Denying this privilege to anyone is

failing to respect people as persons, treating them as means to one's own ends--getting assent, instilling beliefs--instead. However, we can link this argument to social and political goals of schooling. If we expect teachers to prepare children for participation in a democracy, we must not neglect any opportunity for demonstrating what treating other people as responsible moral agents means. Thus it is not only miseducative and immoral to substitute persuasive bias for good reasons in research reporting, but imprudent as well.

Conviction and Persuasion

In science and morals, people routinely appeal to considerations that should, in principle, be valid for all persons, rather than having mere private validity. Kant stresses this point in contrasting conviction and persuasion:

> If a judgement is valid for every rational being, then its ground is objectively sufficient, and it is termed a conviction. If, on the other hand, it has its ground in the particular character of the subject, it is termed a persuasion.
>
> Persuasion is a mere illusion, the ground of the judgement, which lies solely in the subject, being regarded as objective. Hence a judgement of this kind has only private validity--is only valid for the individual who judges. . . . Persuasion, accordingly, cannot be subjectively distinguished from conviction, that is, so long as the subject views its judgement simply as a phenomenon of its own mind. But if we inquire whether the grounds of our judgement, which are valid for us, produce the same effect on the reason of others as on our own, we have then the means . . . of detecting the merely private validity of the judgement. . . . Persuasion I may keep for myself, if it is agreeable to me; but I cannot, and ought not, to attempt to impose it as binding upon others.[23]

Conviction and persuasion differ as kinds of belief and ways of getting other people to believe things. The differences that count logically and morally presuppose knowing and caring about the choice of means used to gain the assent of an audience and, related to this, the comparative merits of

reason and emotion in getting people to agree with one. It is, however, less the quality of feeling that is problematic, than appeals to particular feelings, such as self-interest or fear, which put aside the claims of others and of reason.

Conviction is only a first step in the movement "outward," from thought to action, and not a necessary one at that. This is important from a pragmatic point of view: Researchers can persuade teachers to act on recommendations without giving them good reasons. While conviction and persuasion differ, abstractly, the feeling of having a belief does not vary with kinds. Opinions and biases may be held as firmly as authorized convictions. All this goes some way toward explaining--not justifying--why people wanting others to act in certain ways may try to persuade, bypassing the aim of conviction.

Persuasion tends to work through "arguments that aren't arguments."[24] The mere repetition of claims, for instance, can induce belief. Consider the following figure of speech, the gist of many research reports in education:

> It is your mother whom you have struck.
> What more can be said?
> It is your mother whom you have struck![25]

Perhaps it looks more familiar in this example:

> Students do not spend enough time on academic tasks.
> What more can be said?
> Students do not spend enough time on academic tasks!

Or in this one:

> Teachers give too much attention to affect.
> What can we say?
> Teachers give too much attention to affect!

Repetition here adds to the feeling of significance and makes claims memorable; more importantly, it makes a judgment sound peremptory: suggesting

that it should go without saying, that it admits of no refusal, question, or contradiction and, therefore, settles the matter. This seems more obvious and less controversial when the charge is striking one's mother, but the same rhetorical mechanisms, preemptory posture and voice--the register drops to chest tones--operate in the other cases. They suppress assumptions and are accusations in the guise of scientific conclusions.

Persuasion aims to muster thought and feelings in closed ranks; it bends the will of other people, making tactical use of their needs and dispositions. Since it has to do more with causing things to happen than with imparting or revising knowledge, persuasion is closer to the performative than to the informative uses of language. People do not answer statements such as, "I urge you to do this," (e.g., "More time on task") or, "I warn you not to do that," (e.g., "Not so much attention to affect") by saying, "You are lying."[26] They either do or do not do what they are told and understand that they are given orders.

Persuasion goes for results in matters of belief and action. To get people ready to act in certain ways, alternatives must be excluded. By its inherent purposes, persuasion eliminates the open-mindedness that justifies confidence. Open-mindedness is compatible with judging that some things are worth believing and doing, and more so than others. But mere persuasion puts the emphasis in research communications in the wrong place and fixes the attention of practitioners in the wrong direction. Persuasion due to inappropriate assumptions of moral and epistemological authority is a kind of betrayal: a grave violation of trust. A popular version of the persuasive denial of uncertainty is casting research conclusions as implications for practice.

The Myth of Implications

Strictly speaking, nothing is implied in research findings beyond the questions that may be answered by the research and other questions to which the research is related by the intellectual and social traditions of research communities. Supposed implications from research for practice--as recommendations for action--are neither deducible nor logically contained in scientific propositions; they depend instead on moral frameworks and networks of power and authority that affect the work of practitioners, as well as on legal and political knowledge and (importantly) know-how.

When researchers cast conclusions as "implications for practice," they gain persuasive force by a terminological suggestion of cogency--a form of compulsion with logical and moral elements, capable of supplying a feeling of certainty. In this context of usage, the term implication is surrounded by "fringes," affectively charged expectations that account for its power to persuade. And, although practical imperatives are not culminations of scientific method and external data, or their highest development and consummation, their place in research reports and mode of presentation often suggest just that.[27]

While reasonable people may disagree, it seems that (logical) implications should be binding. Taking issue with what is comprised or involved by nature or meaning in a statement, as a necessary consequence, gives the impression of folly or capriciousness. Where one is sure of one's premises, logical conclusions appear to be not mere assertions or problematical statements, but absolutely demonstrable and incontrovertible.

Yet one can be sure (i.e., convinced) of premises that are false; and one can take issue with logical consequences, since what is thus involved may well

be false. (Falsehoods have logical consequences, some true, some false.) But the label "implications" may incline one to accept a proposal for action, because what is offered under this label may be mistaken as indefeasible. This terminology masks the moral complexity of decisions and the indeterminacy affecting the logic of intentions.

One can understand that people want to believe what they decide to do is the thing to do, definitely, and that it is based on solid as opposed to shifting and uncertain grounds. While there are many decisions which have no simple right choice, "implications" from research for practice have an air of authority. The rhetorical force of the term "implication" appeals to the needs and hopes of audiences. By contrast, explanations aim to give people reasons for believing or doing something.

The Rhetoric of Explanation[28]

People try to add to other people's knowledge by dispelling ignorance and correcting error on the assumption that persuasion is unnecessary or inappropriate. The rhetoric of explanation as a pedagogy separate from persuasion is relatively recent; prior to Bacon, explanation as an aim of discourse was rarely mentioned.[29] While persuasion aims to sway beliefs, explanations are primarily a method for delivering knowledge. Their typical medium is writing, and their court of appeal is reason. As a pedagogy, explanation relies on the related strategies of exposition, amplification and argument.

In ordinary language, the root meaning of explaining is opening up or unfolding. Unfolding a matter, one makes it plain and goes into its details. In explaining, people clear something from obscurity, state its import, show how it relates to things already known, and give an interpretation that

accounts for some subject of interest, illuminating causes, origins or reasons. Explanation makes things accessible and intelligible.

More fully exhibiting the meaning of terms and assertions, explanation corrects ambiguity and uncertainty of meaning by using distinctions and definitions. Distinction marks differences of sense in an ambiguous word to advance clarity and protect one's intended meaning. Definition sets out the meaning of a term or assertion and is particularly necessary when words or phrases are new, uncommon, or used in a specialized way.

Newman argues that explanatory amplification makes a good writer: one who sees the foundation of writing in thought and has the intellectual habits, power, and ingenuity to enlarge upon propositions so that the reader can understand. Including definition, he lists three other modes of explanatory amplification:

> By stating the proposition in different ways, at the same time shewing [sic] what limitations are designed to apply to it, and wherein there is danger of mistake, which it is necessary to guard against. . . .
>
> By stating particular cases, or individual instances, and thus shewing [sic] what is meant by a general proposition.
>
> By illustrations, especially by formal comparisons and historical allusions. What is familiar to our minds, is thus made to aid us in understanding what is less obvious and less easily discerned.[30]

Overall, explanation has generative and corrective purposes; it aims to engage the mind and aids the growth and change of understanding.

Explanation and argumentation are related, since removing ambiguity of terms and claims, clarifying errors and consequences, giving examples and drawing comparisons can be means or subordinate purposes in argumentation, or otherwise be helpful in the statement of reasons for or against a position and the discussion of a question. Conversely, explanation does rely on

argumentative strategies, in the testing and sifting of claims, for instance. Yet to argue often means to reason in opposition, raise objections, contend, dispute, or examine controversially; we try to argue other people into, or out of, a line of action, belief, or intention.[31] While arguments and explanations need not be at cross purposes, they can be responses to different requests, "Prove it to me" and, "Tell me more." Coherence as logical connectivity is central to arguments. But in their orientation toward the goal of understanding, explanations are compatible with narrative and conversational modes of discourse.

The Oxford English Dictionary notes that explanation has an accent of mutuality, for it can be "a mutual declaration of the sense of spoken words, motives of action, etc., with a view to adjust a misunderstanding and reconcile differences, hence a mutual understanding or reconciliation." Dewey describes how explanation in this sense can affect both parties:

> To be a recipient of a communication is to have an enlarged and changed experience. One shares in what another has thought and felt and in so far, meagerly or amply, has his own attitude modified. Nor is the one who communicates left unaffected. Try the experiment of communicating, with fullness and accuracy, some experience to another, especially if it be somewhat complicated, and you will find your own attitude toward your experience changing; otherwise you resort to expletives and ejaculations.[32]

The explanation of research affirms the ethos of science and exemplifies inquiry. It enacts the respect for truth, the self-respect of the researcher, and a concomitant respect for the person on the other side of this symbolic exchange.[33] The proper explanation of research, moreover, renders it discussible. Facts and ideas can be ventilated: exposed to public notice and consideration, a fresh and invigorating current of thoughts, and a free examination from different sides. This rhetoric is compatible with making the most of scientific knowledge, in a defensible way, and with bringing

educational research and practice together to good purpose, namely, to educate. But how can researchers remain true to this goal without over-explaining? How can they avoid taking advantage of their presumed authority to impress audiences with personal beliefs, or appeal to them by their air of sincerity?

On Problems of Practice In Research Communication[34]

Researchers are judging, wanting persons with many firm and settled beliefs; and like most of us, they rarely take the world as they find it. Yet when Einstein developed the theory of relativity, he was not just fond of his opinions; when he spoke about world affairs, however, he probably was. The trouble with opinions is their entrenchment and crudeness: they are strongholds of belief at the same time that they are usually not thought through or worked out in detail. Ben Jonson put this clearly:

> Opinion is a light, vain, crude, and imperfect thing, settled in the imagination, but never arriving at the understanding, there to gain the tincture of reason.[35]

While personal opinions deserve respect, we have no reason for approaching the beliefs of scientists outside of their domains with the respect due to their collective modes of knowing. Personal opinions need not be self-serving to endanger reasonableness. They can be dogmatic and ill-informed, romantic or parochial, and that will do plenty of damage.

In reading or listening to a research report, however, it is difficult to tell where the scientist proper stops and the judging, wanting person begins talking: Neither the page nor the speaker suddenly turns blue or pink by way of warning. Perhaps the most vexing difficulty is that, when educational researchers speak from their opinions on matters of practice and policy, the "voice of science" seems to become more plain--intelligible and candid--

acquiring a straightforwardness it otherwise lacks. This is a pleasing illusion that researchers have every reason (though few incentives) to dispel.

These plainspoken opinions represent what is unscientific in researchers' minds: stipulative assumptions about people, education, and society, reflecting common sense or personal beliefs. They are spoken with the "voice of science" but without its legitimate authority.

The Reduction of Explanation to Sincerity

How can "the voice of science" be distinguished from the personal opinions and beliefs of research? Especially in the social sciences, people try to address this problem by arguing for a general disclosure approach along the following lines:

1. Any piece of research, any course of study, implies both a selection of subject matter and a selection within the subject matter--a selection of theoretical method as well as a selection of relevant facts.

2. This selection will naturally be a function both of the interests and values of whoever is responsible for it and beyond him, to some greater or lesser extent, of the society or culture of which he is a member. One might add that a study whose subject matter was chosen entirely at random, that is, one which might be relevant to no particular interest or which was undertaken in the light of no particular value, need by the same token have no particular importance for anyone.

3. In order to eliminate any possibility of misunderstanding or of hidden persuasiveness, the [researcher] should start by making an explicit and unreserved declaration of his own values and interests in the subject.[36]

This approach will go some way toward assuring that the interests, biases, opinions, and personal beliefs of researchers do not remain tacit premises, with the result that their arguments "pass from bias and opinion in the premise to bias and opinion in the conclusion."[37] But the disclosure approach does not go far enough and cannot guard against misunderstanding and hidden

persuasiveness; in fact, while secrecy is bad, sincerity may be a form of hypocrisy.

First, it is difficult to be explicit and unreserved, not only due to the likely conflict of honesty with interests, but because people's minds are psychologically and logically chaotic in a way that poses problems for any revelation that aims to communicate. Excessive honesty makes people contradict themselves. If it is difficult, often bewildering, to confess all, the next and more interesting question is, What would one get from a full confession?

In a provocative paper, Gouldner reinforces the first point, and goes straight to the heart of the second one.[38] The "ritual of frankness," as he calls it, is naive, since it assumes that we know the values we have. Beyond that, simple frankness conveys that one's values are good enough, which is smug, and assumes that having opened up to the knowledge of others and oneself "where one comes from" and "whose side one is on," one has done all that can be expected.

However, declaring values and interests can never clarify how <u>having</u> particular values and interests, "affects the worth, scope, the bite, and the objectivity"[39] of a particular piece of educational research. And exposing the reasons of one's heart does not mean probing them. In this sense, disclosure is vapid--failing to produce any great effect on the understanding--and vacuous, too, for it does not supply a context in which values and interests, with the consequences of having them, can be appraised by comparison and contrast.

Simple frankness about researcher interests and values is a reduction of explanation to sincerity. The ritual of frankness furthermore ignores the

fact that not everyone's values and interests stand on a par in the world we have made. Why else should Nobel Laureates, for instance, be called upon to speak about matters of public concern, once they receive this prestigious scientific award?[40] And even less exalted researchers declaring their disciplinary affiliations--educational psychologists, sociologists, or anthropologists--are not just providing information that should help the audience to place and qualify their statements; by their declaration, they claim special knowledge and status. However, explaining things also has its pitfalls.

The Limits of Explanation

The rhetoric of explanation is difficult to carry into effect. Yet research reporting is like writing of any kind in that it misses its point if it simply passes the audience by. Writing that is unappealing--awkward, tedious, or pompous--will impede the communication of authorized convictions. As Hexter points out in his "Rhetoric of History":

> Even where it is technically accurate, dull history is bad history to the extent to which it is dull . . . dull history blurs [the historian's] findings for himself and for those who read his writings. Those findings then fail to become, or rapidly cease to be, part of the "workable reserve," the readily accessible knowledge, of the writer and reader.[41]

And communicating what one knows to oneself and other researchers is not the same thing as explaining it to an audience who cannot recapitulate processes of inquiry and is not familiar with them in a general way. However, what is wordy, scholarly exact, or merely boring depends not only on the skills of researchers as writers, but also on the prior knowledge of the audience.

In the social sciences, writers are caught in a crossfire of expectations. They have to sound credible to fellow researchers while also

achieving some communication with the public, for people think that they ought to be posted on discoveries concerning their everyday lives, the source of the researchers' data. But the technical language of research is not the language of ordinary, intentional discourse; it serves to communicate specialized meanings in arguments that are often subtle and difficult. This natural language of science is bound to be baffling and sometimes freezes, as Ziman put it, into "overmighty systems of thought."[42]

Rarely do researchers have the talents or training necessary for rewriting scientific arguments so that their claims can come to be known as warranted by general audiences. To attain this goal, research communication has to meet three conditions (each of them a potential hitch): those of access, belief, and impact--with understanding being the form of impact germane to science. (Outside of this realm of cognition and communication, there are other desirable forms of impact having less to do with understanding than with being moved.) Since one must catch one's hare before one can cook it, the access condition will always have to be met. Catching one's hare can be difficult enough, but the other conditions are even more tricky. Not only can reports be read without being believed, they can also be believed without being understood.

These are some of the difficulties of educational researchers as writers, and of their lay readers, too. It is helpful to look at these difficulties as a general dilemma of writing (method and style), rather than as a problem that linking agents and popularizers of research can solve. The dilemma stems from the fact that one pays for the choices one makes, and writing is no exception:

> In course of use a defined style becomes its own enemy. If one's writing is abstract, it will accommodate ideas, but it will fatigue the reader. If it is concrete, it will divert and relieve; but it will become cloying, and it will have difficulty encompassing ideas.

> If it is spare, it will come to seem abrupt; if it practices a degree of circumlocution, it will first seem elegant but will come to seem inflated. The lucid style is suspected of oversimplifying.[43]

The particular constitutions and strengths of different writing styles account for these defects and limitations.

And the dilemma goes on. It is true that there is a relation between the vitality of what one is saying and the appeal of one's style, but dryness and pedantry reflect some of the conventions of science. If research is written up snappily like a news item, or in the terse manner of an advertisement, it may catch the public's eye. Yet it cannot be given the critical appraisal depending on detail and precision. If detail and precision rule, research may not get itself read at all; if read, its point may disappear from view. In either case, one fails to communicate authorized convictions, and reasons supporting them.

The rhetoric of explanation is subject to the general dilemma of writing. If it becomes too discursive, it may stand in its own way, impeding both access and understanding. Some of these difficulties can be finessed: Footnotes, for instance, allow researchers to provide detail and backing without blurring the argument or losing their audience. But if researchers actually say everything that is to be said on both sides of a question, credence may be withheld, for people tend to believe assertions more than arguments.

This is particularly true for issues of urgent concern, where at least part of oneself wants to hear, "only the voice, the simplicity, the conviction of authority":

> "Yes, I understand. It happens. Don't fret. Do this! Believe me! . . ." Or words to that effect--words utterly direct and transparent, words without a hint of prevarication or indirection.[44]

It is for this and other reasons that research communication can shift away from explanation to persuasion.

The Pull Toward Persuasion

For communication people need, by the first rule of rhetoric, some point of agreement from which a meeting of minds can begin. Therefore, although belief should be earned rather than granted in research reporting, without some unearned assent at the outset, the occasion for communicating authorized convictions never arises. Since "it is rhetorically much more effective to insinuate crucial assumptions into the hearer's mind without focusing attention upon them,"[45] the reverse of explanation will often promote access and impact, though not necessarily understanding.

The trouble is that, once there is belief, there are few incentives for shaking it, to win it again in earnest. People can believe something that is warranted, while not coming to believe it for good reasons. But when one has got the assent of an audience to authorized convictions, why endanger it by drawing attention to the imperfect backing of claims, the place of judgment in drawing conclusions, and the different perspectives that may bear on the matter at hand?

Tokens of good faith in research reporting may weaken chances for having an impact. While "the concealment of values, by tactical ambiguity or denial . . . threatens moral integrity,"[46] pretending to an Olympian stance of neutrality may strengthen credibility. And how convincing are researchers, really, when reporting <u>all</u> "the false starts, the mistakes, the unnecessary complications, the difficulties and hesitations" that are part of their work? Since the scientific kitchen is messy, Ziman concludes that

> a scientific paper is not a candid autobiography, but a cunningly contrived piece of rhetoric. It . . . must persuade the reader of

> the veracity of the observer, his disinterestedness, his logical infallibility, and the complete necessity of his conclusions. . . . Scientists . . . favor the passive voice, the impersonal gender, and the latinized circumlocution, because these would seem to permit, in the circumstances, a climate of opinion within which, as it were, one can express relatively positive assertions in a tentative tone.[47]

While each piece of research is best understood as a contribution to discussion, the impersonal style tends to present scientific work as if its validity were already agreed upon. Yet this impersonality has its justification, too, for scientific language downplays the emotive uses of language in favor of the informative ones; it withdraws from particular examples, concrete practices, and intuitive imagery, aiming instead to separate things from everyday associations with their evocative meanings. This, in turn, raises problems of communication, since

> even the most highly trained of us are wearied by long continuance of abstract communication; we want the thing brought down to us so that we can see it. . . . Thus the universe of Einstein is represented as "like" the surface of an orange; or the theory of entropy is illustrated by the figure of a desert in which Arabs are riding their camels hither and thither.[48]

Abstraction can impede communication, and analogies, imagery, and exemplars help people understand things. Explaining things may therefore involve the use of imagery, concrete examples, and other rhetorical devices, especially in offering facts and ideas that entail revising old beliefs.

In general, persuasion can be a means for helping others acquire justified beliefs--in bringing about conceptual change or inculcating moral habits as a basis of moral reasoning, for instance. In cases of this kind, persuasion as a kind of belief and as what we do to other people is a way-station only, and may be defended as a means of access, with understanding the bases of conviction as the ultimate end. The pull toward persuasion does not deny or in itself vitiate the educative intent in research reporting, for

teaching is a "variegated activity"; it "may include hinting, suggesting, urging, coaxing, encouraging, guiding, pointing out, conversing, instructing, informing, narrating, lecturing, demonstrating, exercising, testing, examining, criticizing, correcting, tutoring, drilling and so on--everything, indeed, which does not belie the engagement to impart an understanding."[49]

What people call knowledge use in teacher education and teaching may come back full circle to education. This circle is not vicious, for it can make action more wise. In fact, policies that promote a separate and new activity called "knowledge use" in schools and classrooms are often not productive. They should be reformulated as policies encouraging the education of practitioners and the practice of those rhetorical arts in research reporting that will keep the voice of science alive in the conversation about education. In communicating their authorized convictions, educational researchers owe allegiance to <u>two</u> disciplined communities outside of social life that help maintain a critical interest in it: the republic of letters and the republic of science.

Footnotes

[1]This paper will appear as a chapter in Ecology of School Improvement, 1987 Yearbook of the National Society for the Study of Education, ed. John I. Goodlad (Chicago, IL: University of Chicago Press).

The author wishes to acknowledge and thank Charles E. Lindblom, Jonas Soltis, and David K. Cohen who made valuable comments on earlier drafts of this chapter. She owes particular intellectual debts however to Israel Scheffler and Robert E. Floden.

[2]Margret Buchmann is coordinator of the Conceptual Analytic Project and an associate professor of teacher education at Michigan State University.

[3]See Richard Popkin, "Bible Criticism and Social Science," in Methodological and Historical Essays in the Natural and Social Sciences, ed. R.S. Cohen and M.W. Wartofsky (Dordrecht, Holland: D. Reidel, 1974), pp. 339-360.

[4]See Jonas F. Soltis, "Education and the Concept of Knowledge," in Philosophy and Education, 80th Yearbook of the National Society For the Study of Education (Chicago, IL: University of Chicago Press, 1981), pp. 95-113; Denis C. Phillips, "On What Scientists Know, and How They Know It," in Learning and Teaching the Ways of Knowing, Eighty-fourth Yearbook of the National Society for the Study of Education, Part 2, ed. Elliot Eisner (Chicago, IL: University of Chicago Press, 1985), pp. 37-59.

[5]John Dewey, Democracy and Education: An Introduction to the Philosophy of Education (New York: Macmillan, 1963), p. 189.

[6]See, for the general point, R.M. Weaver, The Ethics of Rhetoric (Chicago, IL: Henry Regnery, 1953); for history, J.H. Hexter, Doing History (Bloomington: Indiana University Press, 1971); for educational research, see Robert E. Floden, "The Role of Rhetoric in Changing Teachers' Beliefs," Teaching and Teacher Education 1 (1985): 19-32.

[7]For example, in the work of Israel Scheffler, see, Language of Education (Springfield, IL: Charles C. Thomas, 1960), and Conditions of Knowledge: An Introduction to Epistemology and Education (Glenview, IL: Scott, Foresman, 1965).

[8]See Kenneth A. Strike, Liberty and Learning (Oxford, England: Martin Robertson, 1982); Floden, "Role of Rhetoric"; also John S. Mill, "Coleridge," in Essays On Politics and Culture, ed. Gertrude Himmelfarb (Garden City, NY: Anchor Books, 1963), see pp. 130-131.

[9]See, for instance, Karen B. Kepler, "BTES: Implications For Preservice Education of Teachers," in Time To Learn, ed. C. Denham & Anne Lieberman (Washington DC: U.S. Department of Education, National Institute of Education, 1980), pp. 139-157; and Gary D. Fenstermacher, "Philosophy of Research on Teaching: Three Aspects," in Handbook of Research on Teaching, 3rd. ed., ed. Merlin C. Wittrock (New York: Macmillan, 1986), pp. 37-49.

[10]See Michael Oakeshott, "The Voice of Poetry in the Conversation of Mankind," in Rationalism in Politics: And Other Essays (New York: Basic Books, 1962), pp. 197-247; Margret Buchmann, "Improving Education By Talking: Arguments or Conversation?" Teachers College Record 86 (Spring 1985): 441-453; David K. Cohen and Janet A. Weiss, "Social Science and Social Policy: Schools and Race," The Educational Forum 41 (May 1977): 393-413; and David K. Cohen and Michael S. Garet, "Reforming Educational Policy With Applied Social Research," Harvard Educational Review 45 (1975): 17-43.

[11]See Israel Scheffler, Conditions of Knowledge, especially p. 63.

[12]John Dewey, Democracy and Education, p. 188.

[13]Charles W. Fisher, Nikola N. Fibly, Richard Marlieve, Leonard S. Cohen, Marilyn M. Dishaw, Jeffery E. Moore and David C. Berliner, Teaching Behaviors, Academic Learning Time and Student Achievement: Final Report of Phase III-B: Beginning Teacher Evaluation Study, Technical Report V-1 (San Francisco, CA: Far West Regional Laboratory for Educational Research and Development, 1978), p. 4-36.

However, as Kepler points out in "BTES: Implications For Preservice Education of Teachers," her illuminating analysis of this influential research, the summary BTES report--addressed presumably to a wider audience--omits the qualifications of the final report, and goes beyond legitimate conclusions in stating major findings.

[14]Nicholas Rescher, Methodological Pragmatism: A Systems-theoretic Approach to the Theory of Knowledge (Oxford, England: Basil Blackwell, 1977), p. 191.

[15]Stephen Toulmin, "The Construal of Reality: Criticism in Modern and Postmodern Science," Critical Inquiry 9 (1982): 104.

[16]See Israel Scheffler, Science and Subjectivity (Indianapolis, IN: Bobbs-Merrill, 1967) pp. 82-83; and Phillips, "On What Scientists Know."

[17]See William Hare, Open-mindedness and education (Montreal, Canada: McGill-Queen's University Press, 1979); Israel Scheffler, "In Praise of the Cognitive Emotions," Teachers College Record 79 (1977): 167-185; Charles Taylor, "Responsibility For Self," in The Identities of Persons, ed. Amelie O. Rorty (Berkeley: University of California Press), pp. 281-299.

[18]Israel Scheffler, Of Human Potential: An Essay In the Philosophy Of Education (Boston, MA: Routledge & Kegan Paul, 1985), p. 116.

[19]See Margret Buchmann, "The Use of Research Knowledge in Teacher Education and Teaching," American Journal of Education 92 (August 1984): 421-439; and "What Is Irrational About Knowledge Utilization," Curriculum Inquiry 15 (Summer 1985): 153-168.

[20]Max Black, The Labyrinth of Language (New York: Frederick A. Praeger, 1968), p. 99.

[21]Michael Polanyi, The Study of Man (Chicago, IL: University of Chicago Press, 1959), p. 68.

[22]See Scheffler, Conditions of Knowledge; Strike, Liberty and Learning.

[23]Immanuel Kant, "The Critique of Pure Reason," in Great Books of the Western World, vol. 42: Kant, ed. R.M. Hutchins (Chicago: The University of Chicago Press, 1952), pp. 240.

[24]See Peter A. Minkus, "Arguments That Aren't Arguments," in Informal Logic: The First International Symposium, ed. J. Anthony Blair and Ralph H. Johnson (Inverness, CA: Edgepress, 1980), 69-76.

[25]Quintillian, cited in Chaim Perelman and L. Olbrechts-Tyteca, The New Rhetoric: A Treatise on Argumentation (Notre Dame, IN: University of Notre Dame Press, 1969), p. 246.

[26]See Black, Labyrinth of Language, p. 112.

[27]See Joseph R. Gusfield, The Culture of Public Problems: Drinking-Driving and the Symbolic Order (Chicago, IL: University of Chicago Press, 1981); and Joseph R. Gusfield, "The Literary Rhetoric of Science: Comedy and Pathos in Drinking Driver Research," American Sociological Review 41 (1976): 16-34.

[28]In his chapter in this Yearbook, Sirotnik defines the term explanation in a narrow sense in which it may be distinguished from understanding. I use explanation in the ordinary (and broader scientific) sense in which it implies the pursuit of understanding.

[29]Robert J. Connors, "The Rhetoric of Explanation: Explanatory Rhetoric From Aristotle to 1850," Written Communication 1 (April 1984): 189-210.

[30]Samuel P. Newman, A Practical System of Rhetoric (New York: Dayton and Newman, 1842), p. 23.

[31]See Buchmann, "Improving Education by Talking."

[32]Dewey, Democracy and Education, p. 5.

[33]See Michael Polanyi, The Study of Man (Chicago, IL: The University of Chicago Press, 1959), p. 66.

[34]The following section has been adapted from "Problems of Practice and Principle in Research Communication," a paper presented at the Philosophy of Education Society Meetings, April 1986, Montreal.

[35]Ben Jonson, Timber: Or Discoveries: Being Observations on Men and Manners (London: J M Dent, 1964), p. 3.

[36]Alan Montefiore, Neutrality and Impartiality (Cambridge, MA: Cambridge University Press, 1975), p. 20.

[37]Minkus, "Arguments That Aren't Arguments," p. 73.

[38]Alvin W. Gouldner, "The Sociologist As Partisan: Sociology and the Welfare State," The American Sociologist 3 (1968): 103-116; see also Judith N. Shklar, Ordinary Vices (Cambridge, MA: The Belknap Press of Harvard University Press, 1984).

[39]Gouldner, "Sociologist As Partisan," p. 112.

[40]See Harriet Zuckerman, Scientific Elite (New York: The Free Press, 1977).

[41]Hexter, Doing History, pp. 45-46.

[42]J.M. Ziman, Public Knowledge: An Essay Concerning the Social Dimension of Science (Cambridge, MA: Cambridge University Press, 1968), p. 169.

[43]Richard M. Weaver, The Ethics of Rhetoric (Chicago, IL: Henry Regnery, 1953), p. 209.

[44]Oliver Sacks, A Leg To Stand On (New York: Summit Books, 1984), pp. 92-93.

[45]Black, Labyrinth of Language, p. 99.

[46]Martin Rein, "Social Policy Analysis as the Interpretation of Beliefs," Journal of the American Institute of Planners 37 (1971): 305.

[47]J.M. Ziman, "Information, Communication, Knowledge," Nature 2 (1969): 319.

[48]Weaver, Ethics of Rhetoric, p. 209.

[49]Michael Oakeshott, "Education: The Engagement and Its Frustration," in Education and the Development of Reason, ed. R.F. Dearden, Paul H. Hirst, and Richard S. Peters (London: Routledge & Kegan Paul, 1972), pp. 25-26.